

Chapter 19

Therapeutic dialogues in music: Nurturing musicality of communication in children with autistic spectrum disorder and Rett syndrome

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19.1 Introduction: support for communication—principles and techniques

The development of clinical music therapy over the past 50 years has equipped the trained practitioner with methods and techniques for using both precomposed and improvised music in ways that have wide application (Bruscia 1987; Wigram 2004; Wigram *et al.* 2002). In Europe, a tradition of improvised music-making—stimulating dialogues of expression in musical form—promotes the development of a musical relationship between a therapist and a patient or group of patients (Alvin 1975; Nordoff and Robbins 1977; Priestley 1994). Listening to precomposed music, and singing or composing songs, is frequently used in palliative care and for the management of terminal illness (Aasgaard 2005; O'Brien 2005). Whether the therapist uses precomposed or improvised music, we believe the quality of musical engagement and its clinical benefits depend on engaging with the motives of communicative musicality considered to be the foundation for the healing process (Trevvarthen and Malloch 2000). Human communicative musicality, evident in parent-child interactions from birth (Malloch 1999; Trevvarthen and Malloch 2002), comes alive with people of all ages when music is shared as the medium for therapeutic dialogue.

To understand the power of music to heal, it should be conceived as communication that can engage human emotions and thoughts profoundly. But how can the sounds of a human voice or performance on a musical instrument have such an effect? This is not a question for which psychology can offer an easy answer.

Whether music functions as a 'language' is a matter of debate. A musical dialogue may be neither oral nor vocal, and usually it has no definite semantic or referential meaning. Sloboda commented that it would be 'very difficult to agree on a set of criteria for demonstrating that a person had "understood" some music' (Sloboda 1990, p. 6). Yet musical expression can certainly mediate intimate and creative dialogic encounters between people, linking their motives and emotions.

The literature of music psychology addresses the teaching of musical skills in children much as a developmental linguist might study the learning of formal features of speech or writing (Hargreaves 1990, p. 63). This science is not typically looking at the child's musical production to analyse a dialogical process of mutual engagement (see, however, Gratier and Danon Chapter 14, Erickson Chapter 20, Woodward and Bannan Chapter 21, and Custodero Chapter 23, this volume). In an original approach, Schögler (1998) demonstrated a clear connection between the

art of music and basic communications research, by comparing the intuitive expressive interactions of infants with parents to the dynamic skills of jazz musicians improvising in duets. This idea of a non-verbal dialogue mediated by musical expressions was further explored in a commentary by Hallan Tønberg and Hauge (1998) who related Schögler's theory of rhythmic temporal synchrony and interaction, and Stern's concept of the 'attunement' of behaviours between people (Stern *et al.* 1985), to their own analysis of the interplay of simultaneous and contingent utterances between congenital deaf-blind children and their adult partners (Hauge and Hallan Tønberg 1998).

Holck (2002, 2004) has made a detailed analysis of musical interaction in therapy, with particular reference to the autistic and developmentally disabled population. She commented that, 'in a well-functioning dialogue, the nonverbal and often implicit visual and auditory cues ensure good continuation without interruptions or overlapping' (Holck 2004, p. 45). Holck went on to say that 'in mutual interplay, both partners participate in turn-organization, and therefore an analysis of cues indicating turn-taking and turn-yielding can give information on the participants' social skills, whether or not the dialogue is verbal'. Holck's analyses of music therapy sessions, consisting of 'horizontal' analysis looking at musical interaction over time, and 'vertical' analysis looking at different forms of interactional behaviour occurring simultaneously, demonstrate the development of 'interaction themes', and both turn-taking dialogue and a form of 'simultaneous dialogue' unique to musical interplay. Her analysis shows that well-regulated musical dialogue is characteristic not only of artistic or recreational music making, but of clinical music therapy.

The deliberate use of controlled musical dialoguing as a therapeutic method has been defined as 'a process where therapist and client or a group of clients communicate through their musical play' (Wigram 2004, pp. 97–106)¹; two main forms are distinguished.

- 1 'Turn-taking dialogues: making music together where the therapist or client in a variety of ways, musical or gestural, can cue each other to take turns. This "turn-taking" style of dialogue requires one to pause in their playing and give musical space to each other' (Wigram 2004, p. 98).
- 2 'Continuous "free-floating" dialogues: making music in a continuous musical dialogic exchange—a free-floating dialogue. Here the participants, therapist and client, play more or less continuously and simultaneously. In their playing musical ideas and dynamics are heard and responded to, but without pause in the musical process' (Wigram 2004, p. 98).

One can imagine that, just as in a verbal conversation, there are several ways in which the dialogue can develop between the participants. First, they can time their contributions in various ways.

- 1 The therapist and client take turns to play, taking over from each other *immediately*, without pause.
- 2 The therapist and client take turns, with *pauses* between their statements.
- 3 The therapist or client *interrupts* the 'conversation'.
- 4 Therapist and client *overlap* each other ('talk' at the same time), in a harmonious manner.
- 5 The client makes long statements and the therapist, in very short phrases, gives the equivalent of grunts or 'ah-ha' responses.

¹ The following principles are described for a therapist working with a single client, but they can also be applied to work with a group of clients.

In addition, the emotional quality of their contributions can differ:

- 6 The therapist's musical style in the dialogue may be sympathetic (similar in manner or feeling) to the style of the client, or, conversely, the client responds in a sympathetic manner to the statements of the therapist.
- 7 The therapist's playing in the dialogue is very unsympathetic and oppositional/confrontational to the client, or vice versa (Wigram 2004).

Musical dialogue is a natural developmental outcome of the impulses for sharing communicative expression typical of normally developing children. However, in improvisational music-making with clinical populations, musical dialogues do not always develop automatically or easily. For example, some autistic clients find it extremely difficult to engage in dialogues because they cannot follow or respond in normal turn-taking exchanges. Clients with Rett syndrome show marked delay of response, and their uncontrolled movements disrupt the natural timing of interactions. Those with Asperger's syndrome typically 'talk' so much that they do not pause for long enough to listen to what somebody else has to say.

By using techniques such as interjecting (waiting for a space in the client's music and filling in the gap) and making spaces (leaving spaces within one's own improvising for the client to interject their own material) (Bruscia 1987, p. 535), the therapist can engage inattentive clients in dialoguing, leading to a conversation or argument style of improvisational music-making in which the playing together can become directly communicative as a game. Communication can also be facilitated through modelling—playing and demonstrating something in a way that encourages the client to imitate, match or extend some musical idea (Wigram 2004, p. 99).

These and other techniques can be used to promote the initiation, development and progression of a dialogue. By supporting the natural motives of communicative musicality, they organize the harmonic, rhythmic, melodic and dynamic musical cues or gestures in shared patterns of activity. They create a potential for mutual experience resembling the intuitive sympathy of communication that is an essential element in the developmental process of all children. They are capable of encouraging collaborative responses, even when pathologies such as autism and Rett syndrome present significant barriers to expressive communication and comprehension.

19.2 The technique of improvisational therapy

The methods of musical improvisation by which the potential for communicative musicality in people with autism spectrum disorder (ASD) can be discovered, drawn out, explored, developed and then integrated and incorporated into everyday engagements with other people rely on musical technique and therapeutic method, and on the controlled attunement to a client's expressed intentions and feelings. The development of the required 'toolbox' of clinical techniques and skills in musical improvisation, and their effective use in therapy, requires a systematic and comprehensive training. Effective therapeutic practice is learned through sensitive attention to clients as individuals, and the recognition of their different experience. The theory of musical improvisation therapy has been well documented; it is taught as a set of methods and techniques that have proved appropriate and effective for achieving specified therapeutic goals (Bruscia 1987; Wigram 2004). By the deliberate choice of a therapeutic method, we specify the means by which those goals will be attained, and which well-practiced musical techniques will be used as tools.

Simple styles of playing—such as melody dialogues, two-chord accompaniments, walking basses (tonal and atonal), sixths with octave grounds, jazz, pentatonic and Spanish-style frameworks—are easily learnt by therapists; they are supported by therapeutic responses sensitive

to the initiatives and emotions of a client, such as matching, supporting, frameworking, and grounding. Controlled transitions in therapeutic improvisation help a client or group of clients change and develop their musical expression (Wigram *et al.* 2002, pp. 278–279). Frameworking, discussed below, offers a planned musical structure to the expressions of a client, which can have the goal of enhancing the music aesthetically or guiding the client in a new direction. Jazz frameworks, illustrated below, offer a predictable but nevertheless creative and flexible structure that is attractive for clients with autism, attention-deficit hyperactivity disorder (ADHD) and Asperger syndrome, for whom the experience of predictability can be a critical need. As in games with children, structure balanced against unpredictability plays a regulating role in the clinical process, and depends on the skills of the therapist to engage with the impulses of the client musically (see Erickson, Chapter 20 and Custodero, Chapter 23, this volume, for a comparison with the function of responsive yet structured musicality in the teaching of young children, and Gratier and Danon, Chapter 14, this volume, for a comparison of mother–infant dialogues to jazz improvisation).

19.3 Frameworks to support communicative musicality for children with autism spectrum disorder

Many clinical reports and a few systematic studies in the music therapy literature present evidence for the stimulation of communication in children with autism (Gold *et al.* 2006). A consistent increase in communicative expressions and responses over 10 sessions during improvisational music therapy was found in a study by Edgerton (1994) of 11 children with autism. Other studies have explored factors that may influence the efficacy of music therapy for autism, including the involvement of family members (Müller and Warwick 1993; Oldfield 2004), attention to the developmental level of communication (Perry 2003), the regulation of turn-taking and visual attention (Plahl 2000; Bunt 1994), the systematic control of dynamic form in the music (Pavlicevic 1997), and the detailed use of case analyses to describe the interaction process of playing, turn-taking and timing with individual clients (Robarts 1998; Wigram 1999).

Below, we review improvisational therapy and structured music-making to describe how a therapist can use these methods as tools to develop communication. Music therapy can be used for assessment and to improve the diagnosis of developmental disability, and the analysis of musical activity can play a unique role in demonstrating strengths and difficulties and in identifying potential flexibility, responsiveness and mastery of social skills in children with autism (Oldfield 2004; Wigram 2002).

Children with ASD, or various pervasive developmental disorders and developmental disability, can show musical creativity and can benefit from its encouragement (Wigram 2004). However, they tend to be rigid and repetitive in their behaviour, because they seek predictability in experience that enables them to feel secure. Parents, carers and educational staff are aware that less challenging behaviour occurs when the environment meets the expectations of these children, and that learning has a greater chance of taking place in a clear and accepted structure.

Music, particularly improvised music-making, has the advantage of combining a foundation-giving structure with measured flexibility and unpredictability; this can help children with ASD to learn, by degrees, how to manage when their world becomes less predictable. Improvisational music therapy can also take a child with an ASD back to the early, prelinguistic stage, when the exchange of simple sounds, beginning with the sounds a child will make for his or her own enjoyment, stimulates an interior communicative dialogue—one that is understandable and enjoyable for the child. In this way, the sharing of experience, joint attention to meaning, engagement in purposes with others, and relationships of companionship, trust and affection are built.

The creation of an appropriate musical structure to enable a child to engage, or in response to a child's music, is natural and helpful during improvising (intentionally or unintentionally), and is highly relevant in music therapy practice, where clients need, for one reason or another, a clear musical frame. Children with ASD demonstrate a need for structure, which music contains in many forms including melody, harmony, rhythm, phrasing, and dynamics.

The technique of frameworking—the provision of a clear musical framework for the improvised material of a client or group of clients, to create or develop a specific type of musical structure (Wigram 2004, p. 118) can inspire and encourage, or stabilize and contain. Among the 64 techniques of music therapy described by Bruscia (1987), he defines experimenting as 'providing a structure or idea to guide the client's improvising, and having the client explore the possibilities therein'. Frameworking is a more directive or structuring technique for the communication of ideas and experiences in sound. It is not primarily sympathetic in its purpose, although the frame provided must be responsive to the feelings and mood of the client, and modulated to enhance further interaction. Frameworks contain structure to the degree that the music is formed in a way that allows the child to predict and consequently join in. Therefore, a framework is a musical type or style that contains varied levels and complexity of structure. Creating a framework assumes the development of a musical structure.

The following case vignette exemplifies the use of jazz frameworks. Jazz has a constant, underpinning rhythmic stability or pulse, which is typically 'played against', syncopated, challenged, but remains foundationally solid. A walking bass may support the harmonic direction of the music. Jazz music also often includes a clear, repeated frame of harmonies, such as the cycle of fifths, a compelling harmonic sequence used in many styles of music from popular to classical. Together with the predictable rhythmic structure, the expressive frame invites the listener to anticipate the musical direction, and to enjoy the many melodic and stylistic variations that take place within this frame. Musical ornamentation—syncopation, silent beats or bars, off beat melody—enlivens and colours the music in a flexible way (Wigram 2004, pp. 121–25).

In the short case vignette that follows, drawn from case material of a specialist tertiary service for the diagnosis and management of children with a variety of disorders, most of which fall within the autistic spectrum, this style of jazz framework was effective in evoking behaviours expressive of communicative musicality, despite significant pathology.

Case study 19.1: Joel

Joel is a 7-year-old boy with autism, whose case was more fully reported from a different perspective in a previous publication (Wigram 2002). At referral from a consultant paediatrician, he was described as a boy who demonstrated poor use of direct eye contact, a lack of socially imitative play, an inability to share enjoyment with others, stereotyped ritualistic play, and was poor at relating to other people, especially his peers. He appeared unable to use non-verbal behaviour to regulate social interaction.

The opening experience of the session finds Joel exploring the grand piano. He is particularly interested in watching the hammers come up when pressing down the keys: such a preoccupation with the mechanical function of an object is often found in children with autism. The musical engagement that follows—when the therapist (Tony Wigram) joins in on a second piano—is set out in Table 19.1.

The harmonic structure shown in Table 19.1 uses the cycle of fifths. Joel improvised his melody and rhythmic patterns over the stable, jazzy accompaniment provided, fitting his melodies into the structure. The improvisation lasted only around 65 seconds, but in this time Joel demonstrated evidence of interactive engagement, both musically and through the number of times he visually referred to the therapist.

The musical dialogue continued on the two pianos. Joel began to play rigid sequences on the black notes, to which the therapist provided a pentatonic harmonic frame. Joel worked his way up to the top of the piano,

gradually slowing down as he reached the top. The therapist again provided a two-chord accompaniment. There followed a short transition, followed by a melodic improvisation by Joel, supported by a jazz chordal framework by the therapist (Table 19.2).

The structure of the harmony led to a clear, mutually anticipated musical dialogue between therapist and client. This simultaneous style of dialogue emerged because the framework began to use the cycle of fifths more clearly, within jazzy 12-bar harmonic cycles. In reference to the description above of dialogue as a method, this dialogue never began as a turn-taking, but developed as a continuous, free-floating exchange of musical ideas that require the ability to quickly incorporate the other's musical materials into one's own playing, by both therapist and client.

These short samples of musical invention with an autistic child illustrate how a musical structure can provide the necessary framework for drawing out the musicality of the client, and indicates how the particular style of either tonal or atonal jazz offers a creative and flexible framework for this. The evidence of autistic spectrum disorder was present in the other assessment sessions undertaken as part of the multidisciplinary diagnostic procedure with this boy (speech and language therapy and cognitive psychology), and was also evident in the way Joel established melodic patterns in his playing. But the flexible style, typical of jazz, and the predictable harmonic direction, allowed him to anticipate how he could 'fit in' his musical production with the initiatives of the therapist. This fitting in, or matching, is part of the musical dynamic that draws out or invites the expression of communicative musicality. The use of the jazz framework became effective in providing structure while allowing flexibility.

There are many more examples from clinical assessments that could be cited here, in which the harmonic and rhythmic structures both engage the person and offer opportunities to tease out or release the potential communicative musicality from within confining pathological

Table 19.1 Two-piano improvisation between the therapist and Joel—emerging structure over a two-chord accompaniment. Where the chords are specified in the therapist section (e.g., D minor 7), each chord represents a four-beat bar in a fast quaver beat. The number 7 represents a seventh in the chord

Client	Therapist
Random bass-notes	Falling melody in triplets in treble
Fast repeated notes in treble	Melody-matching with Joel in treble
Repeated note (A) in the rhythm of the therapists accompaniment	Accompanying 'um-cha' chords D minor 7 D minor 7
Begins a melody that goes up and down in the treble of his piano on a rhythm of: -.. -..	G major 7 G major 7 D minor 7 D Minor 7 G major 7 G major 7
Continues his melody and rhythmic pattern, remaining in the same tempo and dynamic as the piano	C major 7 C major 7 F major 7 F major 7
Plays with the flat of his hands, with alternate hands on the keys in a pulsed beat	E major 7 A major 7 D major 7 G major 7
Continues with a melody (with one finger) but slows a little. Goes into chord playing. Uses both hands simultaneously (looks in the piano), reverts to melody, jumping around with one finger of each hand all over the piano	D minor 7 D minor 7 G major 7 G major 7 D minor 7 D minor 7 (strong) G major 7 G major 7 C major 7 C major 7
Continues melody with repeated notes, matching therapist's rhytm, tempo and accents ... STOPS	F major 7 F major 7 E major 7... Held and sustained
Pulls up a chair to sit down	

Table 19.2 Continuation of the improvisation between the therapist and Joel, now within a jazz framework

Client	Therapist
Pentatonic melody up the piano—repeating notes until he reaches the top	B♭ Minor 7 G♭ Major 7 B♭ Minor 7 G♭ Major 7
Pause... Notes in the bass of the piano	G♭ Major G♭ Major
Transition – random notes, without direction	Transition—octaves in the treble, then a chromatic, modulation down the piano
Pentatonic melody in right hand with repeated notes matching the tempo. Melody moves downward in a stepwise pattern (still on the black notes and with right hand)	Two-chord improvisation (jazz style) E♭ Minor 7 A♭ Major 7 E♭ Minor 7 A♭ Major 7 E♭ Minor 7 A♭ Major 7 E♭ Minor 7 A♭ Major 7
Melody continues with repeated notes	D♭ Minor 7 G♭ Major 7 C♭ Major D♭ Major 7
At the change of key, Joel stamps his feet several time	G♭ Major 7 G♭ Major 7 G♭ Major 7 G♭ Major 7
Continues with melody and chords	C♭ Major 7 C♭ Major 7 G♭ Major 7 G♭7–E♭7
Joel establishes a new rhythm in his melody, using a .-. .-. pattern	A♭ Major 7 D♭ Major 7 G♭ Major 7 D♭ Major 7 G♭ Major 7 G♭ Major 7 G♭ Major 7 G♭ Major 7
At the harmonic cue of a change of key, Joel goes into alternate hand chords, and plays repeated chords with the piano (anticipated by Joel from the harmonic and rhythmic pattern in the music)	C♭ Major 7 C♭ Major 7 G♭ Major 7 E♭ Major 7 A♭ Major 7 D♭ Major 7 G♭ Major 7 G♭ Major 7

patterns of behaviour. While these patterns are evident in one form in ASD, they present in a very different, yet related way with another, more severe pathology: Rett syndrome.

19.4 Reinforcing communicative musicality to help children with Rett syndrome

Rett syndrome (first described in Rett 1966) is a genetic disorder affecting mainly females (Amir *et al.* 2000). It leaves a child with severe movement and coordination disadvantages, preventing participation in rhythmic, natural interactions, and severely restricting voluntary activity (Hagberg *et al.* 1983, 1993; Kerr and Witt Engerström 2001). Nevertheless, music is greatly loved and appreciated by children with Rett syndrome, and music therapy has long been considered an effective and indicated treatment for affected children and adults. In particular, it can be helpful in developing social relatedness, attention, primary communication and in stimulating movement, functional hand usage and learning (Elefant 2001; Elefant and Wigram 2005; Hadsell and Coleman 1988; Montague 1986; Wesecky 1986; Wigram 1991).

Communication between an infant and his or her primary caregiver makes an essential contribution to the development of the child's psychological capacities throughout later development. When the infant has developmental delay or impairment, the weakening of this process may affect social, communication, motor or intellectual functioning, which can result in the inability to create coherency in the self, and thus difficulties in organizing experiences, feelings and emotional patterns in relationships (Stern 2000). When the infant lacks communicative abilities, it is associated with increased difficulties in integrating experience with actions and across modalities. This might be clinically evident in very little or no engagement by eye contact, and limited emotional sharing by any means of expression (Pavlicevic 1997).

Despite the fact that individuals with Rett syndrome all become afflicted with a severe developmental disability, most appear to develop normally at first (Einspieler *et al.* 2005; Burford 2005; Nomura *et al.* 2005). The appearance of clear diagnostic abnormality typically occurs between

6 months and up to 2 years of age (Hagberg *et al.* 1993), but there is a wide range of clinical severity reflecting variability of changes in the brain (Kerr and Witt Engerström 2001). When the progress of the condition is compared with Daniel Stern's (2000) account of the development of 'the five senses of self' in infancy, it is evident that many girls with Rett syndrome do acquire what Stern defines as 'an emergent self', 'the core self with others' and 'the intersubjective self', and that some may have even begin to develop 'the verbal self'.

With the knowledge that a girl with Rett syndrome apparently experiences a normal development at the beginning of her life, we can presume that her primary caregiver will have interacted with her as she would with a normal baby. This means that both child and adult will have the emotional experience of learning to attune to one another through preverbal communication. In the development of a normal child, the primary caregiver typically plays, sings and shows emotions towards his or her baby, who in return replies in smiles, gestures and vocalizations. The infant and the parent sympathize with each other's facial expressions, gestures and explore different vocal interactions through 'affect attunement' (Stern *et al.* 1985; Stern 2000). They find pleasure in the experience of interacting with communicative musicality (Malloch 1999; Trevarthen and Malloch 2002). Up to the stage where the syndrome comes to full expression, this is also the case for infants with Rett disorder (Trevarthen and Burford 2001).

As a result of the drastic regression that typically occurs in a girl with Rett syndrome at Stage II of this disorder (the 'destructive stage', usually around 18 months), there is a change in her interactions with others and in their responses and expressions towards her. This stormy period, unsettling both for the parents and for the girl (Kerr and Witt Engerström 2001), temporarily interrupts the flow in emotional communication that mediates human contact.

19.4.1 Preferences and their development in music therapy for girls with Rett syndrome

In research conducted by the second author, differences in song preferences between seven girls with Rett syndrome who began to show the disorder at different ages support a developmental interpretation (Elefant 2001; 2002). It was found that two girls whose onset of Rett syndrome occurred early, at about 9 months of age—the stage of 'secondary intersubjectivity' (Stern 2000; Trevarthen and Hubley 1978)—preferred songs that were slower in tempo and had fewer dynamic, rhythmic and melodic changes. Typically, these songs were sustained with few surprises, like the lullabies and the soft speech of a caregiver seeking communication with a very young infant. On the other hand, five girls whose onset of Rett was around 15–24 months of age—the beginning of the 'verbal self' (Stern 2000)—preferred more complex songs with fast tempi and greater variability in rhythm, dynamic, and melody and vocal humour or playfulness. It seems that a child with an early onset of Rett syndrome will not have experienced all of Stern's five senses of self (Stern 2000), unlike a child who had the chance of normal interaction with her primary caregiver through the two years of infancy.

Primary caregiver–infant interactions are similar to therapist–client interactions. An affectionate mother will attune her communication with her baby in response to the the emotional states and developmental stages of the infant. Similarly the therapist will respond appropriately to each child's emotional expressiveness and level of maturity.

Using songs with children with developmental disabilities is as natural and appropriate as a mother singing to her infant. The songs are linguistically simple and repetitive, relying on non-verbal rather than verbal communication, reflecting the child's expressions. Dialogues are sustained when the therapist, taking the score of a composed and structured song as a base, strives, in the way she sings, to be attuned to the child's facial expression, body movement, gestures and vocalization.

In the study reported as 'Enhancing communication in girls with Rett syndrome through songs in music therapy', 18 familiar and unfamiliar songs were presented (Elefant 2001, 2002, 2004). One of the purposes of the study was to determine whether girls with Rett syndrome are able to make intentional choice. They first indicated a choice of a song out of two or four pictures symbols or words (depending on individual ability) that represented songs about animals and other topics, followed by confirmation of their choice after the order of the symbols had been randomly changed out of sight of the girl. The girls expressed their choice by eye gazing, or pointing with their nose or hand. They expressed their feelings for the music by an array of communicative acts: smiling, laughing, turning their head away or by crying. The duration of the study was 5 months (20–30-minute sessions three times a week) and included baseline, intervention and maintenance trials, followed by additional three maintenance trials (2, 6 and 12 weeks after the intervention had ended). All songs were based on repetitive elements, to provide a foundation on which a child with developmental disability could be supported by a therapist. This frame provided the security a relationship needs to develop inter-subjective rapport, trust and attachment. After presenting the child with this safe 'container', both child and therapist were free to interact musically in more playful and experimental ways.

Analysis of recorded musical interactions between the therapist and the girls with Rett syndrome confirmed that the regulating motives of communicative musicality described by Trevarthen and Malloch (2002) were activated as therapist and child conversed emotionally with one another by sharing songs. As the therapist sang songs to the girls, they responded in individual ways by movements of the whole body, facial expressions, movements of the limbs, hand gestures and vocalizations. Each time the same song was sung, it was as if a new narrative was being told that attracted the child's attention. In one session, for example, the girl might respond happily and with vitality when the therapist sang the song she had selected. In another session, she might remain passive.

In each case, the girl's response influenced the therapist's singing, causing her to vary the tempo and expression of her playing as she kept attentive and attuned to the girls' facial and bodily gestures. This sympathizing of musical performance occurred with no conscious intention, and was brought to light only after the conclusion of the study, during song analysis. The same responsive adjustment of timing and expression takes place between caregiver and baby in normal affectionate and playful interactions (Burford and Trevarthen 1997; Stern 2000). The girls' behaviours confirm that a child with Rett syndrome, having experienced such interactions in the affectionate communications of early infancy, retains sensitivity to contingent and attuned expressive behaviour of another person, without the presence of language (Merker and Wallin 2001).

The study found that girls with Rett syndrome have song preferences. The songs were categorized according to the number of times each was chosen by the participants, as described above, and the total number of confirmed choices were summed and rank-ordered from the most to the least preferred songs in the whole group. The five most preferred songs were then compared with the five least preferred songs, and their structures analysed to determine their musical features. Furthermore, to test the assumption that the degree of normal development of the 'self' evident in children with Rett syndrome corresponds with the age onset of the Rett disorder, children with different ages of onset were compared.

Of the many song features analysed, the most influential factors determining song preference were found to be familiarity, tempo, rhythmic and tempo variability, dynamic expression, melodic richness and vocal sounds (such as 'buzz' 'oops!', 'toot-toot' and 'weeee') and playfulness. Information on each of these features will now be presented.

Familiarity: Songs already familiar to the girls were strongly represented in the most preferred song group, while unfamiliar songs were prominent in the least preferred song group. This finding

is supported by other researchers and clinicians who find that individuals with Rett syndrome can become more animated and generate more communication and are more responsive when familiar songs are heard (Braithwaite and Sigafoos 1998; Elefant and Lotan 1998; Hadsell and Coleman 1988; Woodyatt and Ozanne 1992, 1994; Merker and Wallin 2001).

Tempo: There was a dramatic difference in tempo between the five most and the five least preferred songs. The mean tempo of the five most preferred songs was 145 beats per minute, and of the five least preferred songs 84 beats per minute. There may be various reasons for the girls' preference for the songs with faster tempo, but one simple explanation is that their preference is age-dependent—non-Rett children in the same age group also prefer music with a fast rather than a slow tempo (LeBlanc 1981; LeBlanc and Cote 1983; LeBlanc and McCrary 1983; Sims 1987). This finding gives rise to the notion that those children who showed this preference had experienced normal early caregiver–infant interaction and had continued, in some degree, along the normal route of a developing 'self' when they were toddlers. An additional explanation for tempo preference could be age of Rett onset. The girls' ages were between 4–10 years. When the onset was later, between 18–24 months, the girls preferred songs more appropriate to their chronological age. When the onset was earlier than 18 months—typically resulting in more severe disability—preferences were for songs more appropriate for infants.

Tempo and rhythm variability: The most preferred songs had more complex rhythms, with marked rhythmic energy and tempo changes, while the least preferred songs had rhythms that remained static, with almost no rhythmical development. Variations in rhythm and tempo in songs can add tension and elicits emotional and physical responses in a listener, as early events in the musical sequence generate expectancies about events that will occur later (Fraisie 1982; Martin 1972; Meyer 1956). The girls in the study were attentive to the variability of rhythm and tempo, and became emotionally and physically active when these songs were performed—by moving their bodies and by facial expressions, smiles and laughter. It seemed clear that, through their understanding of the progressive narrative of the music, they were excited to look for a communicative interaction with the therapist.

Melody: Melody is a very important component of musical expression in music therapy (Aldridge 1999). Girls with Rett syndrome with no verbal means to express their emotions can communicate that they are actively listening and reacting to the vitality in the melodies of the songs. The melodic developments were more varied in the most preferred songs. The girls seemed to be attentive to these melodic developments. It may be supposed that when a melodic motif is repeated, it provides security, as it is predictable and invites anticipation, but changes and surprises in the melody keep the song interesting and satisfying. All of the least preferred songs had repeated and predictable melodic motifs which did not elicit excitement.

Vocal play: All of the preferred songs had distinctive types of vocal representation or mimesis, some imitating the motions or sounds of objects or animals with nonsense vocalizations and evocative changes in pitch. Songs with vocal imitations and play bring fun to the music, and elicited many different emotional and communicative responses from the girls. Hearing a musically well-balanced song offers order and meaning, and can create a state in which the whole being of a girl with Rett syndrome attunes to the music. The child becomes open to her surroundings, communicative, ready to engage with her environment (Figure 19.1).

In retrospect, it is unsurprising to find that children with Rett syndrome are able to experience clear preferences and can express their likes and dislikes in music, despite very severe neurological impairment, and that their preferences were consistent with the songs' musical elements. A general characterization of the less preferred songs would be relaxing and cradling, in the style of lullabies that are used to pacify babies and young toddlers. In contrast, most

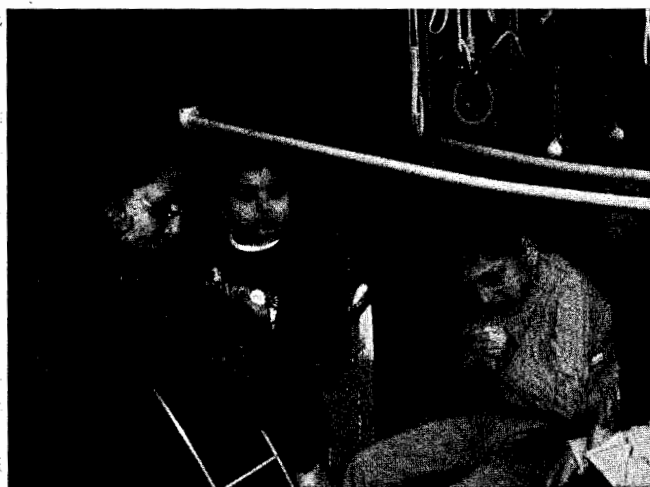


Fig. 19.1 Hearing a musically well-balanced song offers order and meaning, and a Rett child can become open to her surroundings, communicative, and ready to engage with her environment (Cochavit with Yaffa and Ella).

of the preferred songs can be categorized as play or action songs, such as those that are popular with children at the kindergarten level. At the average age of 7, these girls with Rett syndrome preferred songs that are appropriate for normal children of the same age, or a little younger.

19.4.2 Structured music as a catalyst for enhancing communicative musicality

Variations in song making and changes in vocalization are tools at the disposal of the therapist when he or she uses precomposed songs with children and, in particular, for children with Rett syndrome. As the therapist strove to be true to the music, holding the distinctive tempo, rhythm and melody of the song at the centre of her work, she was attuned to the emotions and communicative impulses the girls demonstrated in response to her singing. These responses were immediately reflected in the style in which the song was performed. Responsive change in the emotional expression of the singing gave the song different meanings in different occasions, as if a new story were told each time the song was sung. Rhythmic variations (*ritardandos*, *accelerandos*, *fermatas* and pauses) were introduced into the playing. The way the therapist performed the song reflected the therapist's conscious or unconscious feelings about the girl's responses, which were different each time a song was played.

In the communicative musicality of mother-child interaction, the child grows emotionally and socially, and the relationship between the caregiver and the child changes with each encounter (Malloch 1999; Trevarthen 2002). Such a growth and development is not linear or predictable. There are organic transformations of the child's motives that affect how the parent responds, and there are many reasons why either or both of them will have different moods and feelings of sociability at different times (Trevarthen 2001). 'Musical interaction through songs helps to establish a basic sense of inter-subjectivity through which a child can, from early on, make an

impact on another' (Ruud 1998, p. 60). In a similar way, as the relationship between therapist and client developed, the songs reflected the child's mood and feeling and promoted her self-awareness (Figure 19.2).

A series of sessions in a case example of a child with Rett syndrome will illustrate how the child's part in the musical communication can change from session to session over many weeks. In this account, the therapist, Cochavit Elephant, is presented in the first person.

Case study 19.2: Ann

Ann, a 9-year-old child with Rett syndrome, participated in the study reviewed above (Elefant 2001, 2002). A number of songs were sung to Ann, chosen according to her expressions of preference.

The 'train' song was introduced to her one week before the end of the study, and it immediately became a favourite. It was chosen 12 times by Ann out of 12 times it was offered as a choice (four times during intervention and eight times during the last maintenance periods: 2, 6 and 12 weeks after the intervention had ended). This song is fast in tempo, syncopated, with variable tempo and rhythm and a wide range of melodic phrasings, and with repetition of vocal sounds of 'toot toot' at a particular point in the musical narrative to signal the sound of the train.

Ann's emotional and communicative expressions show transformations in her awareness of the music and of me, and our interactions developed and changed over a number of presentations in several weeks (Figure 19.3). During the first hearing, Ann demonstrated her unfamiliarity with the song. Her facial expression was minimal and she had very little eye contact with me during the first two verses of the song. In the second verse, she moved out of her seat and walked towards the exit door. Ann may have been confused. She had chosen the train song with nose pointing, but may have expected to hear a different train song. The context of the song was also unfamiliar to her and she may have been communicating this by removing herself from the situation. Feeling I had lost contact with Ann, I began to accelerate the tempo during the third verse, hoping that this change would bring her back. As my playing changed, Ann returned and placed herself in front of me. She smiled and giggled slightly after hearing the sound 'toot toot'. Apparently, the acceleration of tempo and the amusing sound caught her attention and interest. A few days later, Ann chose the song for a third time. During its presentation Ann's emotional and communicative response increased. While listening attentively, Ann kept eye contact with me; at first she smiled as she anticipated the 'toot toot' and then burst into laughter immediately following the sound; in later sessions, she laughed *before* the arrival of the sound. Her laughter became stronger and longer, and her head and body swayed from side to side as I picked up each little nuance in her body gesture and facial expression, and reflected it through variations in tempo, dynamic and timbre. Our interaction went beyond the score of the prescribed song: it developed synchronicity in attunement and a flawless coordination of movement in time. The sympathetic performance of the song held both my and the girl's emotions. These were powerful moments of 'becoming' in one intimate body of sound, in one musical space that gave freedom of expression to two separate people. After a few weeks of these moving and meaningful experiences, Ann's responses to this song gradually declined. Her long and deep laughs gave way to short laughs and smiles with very little body movement. Thus, interest in this song receded.

There is a significant ending to the shared life of the train song. During the second verse of the song, Ann got up from her chair and went to the exit door where she remained until the end of the song. I had informed Ann that this would be our last meeting. The performance of the song contained all the expressive and emotional elements Ann had brought into the song over the past weeks. She must have understood the meaning of 'closure'. She expressed this understanding by leaving the therapist and the song, before they left her.

This case demonstrates the emergence and decline over time of an emotional and communicative relationship, a process reflecting acknowledgement and acceptance of companionship through the medium of a structured song. This communication of mutual awareness and



Fig. 19.2 As the relationship between therapist and client develop, the songs reflect the child's mood and feeling and promote her self-awareness (Ann and Cochavit—for a description of therapy with Ann, see Case study 19.2). (See also colour plate 5.)

pleasure in one another's company resembles a typical baby game that changes as parent and infant learn one another's performance and expectations of pleasure. It shows that intimacy of experience can be achieved with children with Rett syndrome through songs in a controlled and responsive music therapy approach. This case also underlines how a composed song offers a stable foundation of musical structure for supporting the initial stage of a therapeutic relationship, and how a prescribed form of narrative, once it becomes too familiar, can be restrictive. The music therapist who intends to communicate through the song can be too committed to the form, lyrics and structure of the song. To invite a lively relationship and to explore the potential emotional space, a less firmly structured interaction may be needed. Improvisational music therapy for girls with Rett syndrome should offer an open container—one that can take up and develop musical qualities, with variations in tempo and rhythm, vocal play, and dynamic change, choosing what proves to be appealing to them. Individuals with Rett syndrome display a rich emotional palette, and a skilled music therapist has much to work with to reach the child and communicate with her, so they can join their expressions in an interactive musical duet that brings both of them pleasure.

19.5 Music therapy for assessment of girls with Rett syndrome, and as support for other therapists and teachers

The aim in music therapy is to build a musical relationship with a client and, within that relationship, to find ways of fulfilling their emotional and communicative needs, helping them develop their vitality and well-being. An assessment is made of a person's general response to music and musical expression—finding which instruments they are most responsive to, if they

Train

Allegro=132

Puff Puff, Toot Toot, off we go

Date	Session	**			**			**	
11/6	1			➡					S & L
14/6	2		▲						
21/6	3		▲			S & L			L
	Time 2		L			L			L
1/7	4		L			L			L
	Time 2		L			L			
	Time 3		L			L			
5/8	5					L			
	Time 2		L			L			L Soft
	Time 3		(BS)						
15/9	6		(BS)				(BS)		
	Time 2		▲			▲			➡

** = 'Toot Toot' ➡ = Walk toward door S & L = Smile & laugh
▲ = Looks up at therapist L = Laugh ■■■ = Long laughter (BS) = Big smile

Fig. 19.3 Ann's evolving responses to 'The Train Song' over a number of presentations.

respond more to vocal sound, and how they react to changes in frequency, rhythm, tempo and volume. Observation is made of how they accept turn-taking, sharing instruments, musical improvisation (both tonal and atonal), and what happens if the therapist mirrors or reflects the various musical sounds made by the client.

Women and girls with Rett syndrome tend to display intense anxiety in unfamiliar places, and with unknown people and events. Those who come to a Rett Therapy Clinic naturally feel as though they are on display—the object of discussion—and perhaps they are aware of their own severe disabilities in the face of all of the ambulant, normally functioning adults around them. Their past experiences with adults are often associated with them playing the role of ‘inspectors’, as they undergo a multitude of tests at medical facilities.

Free improvisation in music therapy is a disciplined technique, and is intentionally an open or receptive process in which interactively meaningful music can be created that the client can understand and from which support can be gained. By conveying the feeling of a musical phrase, a rhythm or a melody, a musician can help a client with extremely limited capacity for response to feel contact at a level they can appreciate and share. Thus, understanding and reflecting the feelings of the client becomes a crucial part of the process—first of assessment, and then of therapy.

A National Rett Therapy Clinic has been operating in the UK since 1992, initially as a clinic held four times a year in the Harper House Children’s Service of Horizon NHS Trust, and since 1998 as a regional clinic under the Wolfson Centre of Great Ormond Street Hospital for Sick Children in London. A team of specialists, including a paediatrician, a physiotherapist, and speech, language, occupational and music therapists, undertake multidisciplinary assessment to advise at the tertiary level on the therapeutic management of Rett syndrome.

The Israeli Rett Centre also implements a multidisciplinary approach. Both teams have found that it is best for the client and the therapeutic programme if the assessment starts with a music therapy session, to greet the child and invite her to respond. This approach of using musical communication helps the child to overcome her rejection of an unfamiliar place and promptly gives the team a picture of the girl as a functional, communicative individual, helping the other therapists by providing a wide range of evidence to inform their own specialist practice (Figures 19.4, 19.5 and 19.6).

We have developed musical assessment with this population to demonstrate how communication and openness to a child’s experience can be achieved through musical interaction, leading to clinical engagement (Wigram 1991, 1995). Depending on the needs of individual girls, they may then have feeding, communication and physical assessments, with physiotherapy, occupational therapy and medical treatment. When different practitioners work together in this way, a problem can be viewed in several different sessions from different perspectives. For example, communication may be examined through the lenses of music therapy and the feeding assessment; hand use can be observed in music therapy, physiotherapy and occupational therapy assessments.

The process of assessment is not the same as that of therapy (Wigram 1991, 1995). In assessment, one is attempting to gather in a short period of time a significant amount of information that will help in the making of decisions about the future treatment of a client. The aim is to obtain an overview of the client’s abilities and interests—to gain a whole impression of the client as a person, not only their functional and physical disabilities, but their motivation, attention, interest in their environment, and readiness for communication. In cooperation with other members of the assessment team, the music therapist looks for and tests the following abilities:

- ♦ gross and fine motor skills
- ♦ attention, attention span and focus



Fig. 19.4 During assessment: Cochavit dramatizing a story with Ella. (See also colour plate 5.)



Fig. 19.5 During assessment: Cochavit dramatizing a story with Yaffa. (See also colour plate 5.)

- ◆ concentration and general awareness
- ◆ general non-verbal interaction—turn-taking, eye contact
- ◆ expressive and receptive communication skills
- ◆ areas of personal interest and motivation.

Although each client with Rett syndrome presents with individual needs that require varied specialist attention, these are the six essential topics for all forms of assessment for clients who have developmental disability.

At the Harper House Clinic, the music therapy session almost always starts at the piano. Since the Israeli Rett syndrome evaluations are carried out at each child's educational centre, the therapist uses a guitar or a keyboard. At both places, the therapist starts by improvising gently, trying



Fig. 19.6 During assessment: Cochavit develops a musical relationship with Ella. (See also colour plate 5.)

to do this sympathetically, intentionally reflecting the feelings of the client at the beginning of the session. When the child seems to have opened up and attuned to the music therapist, a short song is introduced to express welcome or to say, in musical terms, 'Hello!'. In the next stage, the child is encouraged to take part in a musical interaction—for instance, they are invited to put their hands on the keys of the piano, guitar or tambourine, and the therapist begins to engage them, helping them to improvise on the musical instrument by moving their hand. A young child will probably be sitting on the knees of another member of the team, usually either the physiotherapist or the occupational therapist.

In many cases, the guitar is the instrument of choice, given the child's motor disabilities. A gentle, sustained sound can easily be coaxed from the guitar. It is important when inviting actions on the piano or the guitar to encourage sustained sounds, to aid the child's awareness that they have made the sound, that only a small amount of movement can create a rich and sustained sound. Music-making books or audio tapes brought by the parents might be used, and sometimes the music therapist will find it helpful to use instruments such as a drum or tambourine.

If using a drum, the child is first seated in front of the drum with their hands resting on it, and they are encouraged to move gently on the instrument when it is struck, so that they can experience the vibration through their hands. Then, if they have not already begun to do so, they are prompted or supported to touch and hit the surface of the drum with their dominant hand, or with both hands together. If work had begun on the piano, we would first have found out how the child wants to play, and which hand is dominant. Drum playing gives a combined tactile and auditory experience for the client; the stimulation felt through the surface of the instrument can be interesting enough to attract the attention of a child to the feeling of the sound and lead to anticipation of this sensation.

Other instruments might also be introduced to enliven the communication, such as wind chimes—a sequence of brass bars suspended on a wooden frame—which make a sustained, attractive sound. Amplification by a microphone can support any vocal sounds that might lead to the more articulate communicative skills we want to encourage.

When a communicative musical engagement has been achieved, and the child and music therapist have become friends, the music therapist continues to support the child's interactions with other members of the multidisciplinary team in the evaluation process.

Case study 19.3: Claire

Claire is a 6-year-old girl with Rett syndrome. She is non-verbal, her spine is developing a scoliotic curvature, and she cannot stand unsupported. During the initial interview, Claire was twisting her hands together and occasionally clasping them. Her gaze was vacant and her body was moving constantly. She appeared unaware of the people in the room, and that they were talking about her.

The first assessment was through a 30-minute session in music therapy, observed by the parents and the rest of the team through a video link. Her responses, reported by the therapist, Tony Wigram in the first person, were confirmed by an analysis of the video recording.

Claire was sitting on my knee at the piano, and I was playing the 'Good morning' song gently to her on the instrument. She seemed very aware, and began to rest her hands on the keys of the piano. She was moving her right hand in order to play handfuls of notes. The song allowed pauses between phrases, and Claire hit the piano keys one or two times during each pause, turning to look at me. Her timing in this turn-taking was musically appropriate.

Claire started to vocalize, making calling and laughing sounds in response to a simple song I was singing to her, 'Claire—let's play'. I was improvising on the piano, first with a single note, then with a repetitive melodic phrase. I was leaning with my head against the piano so that Claire would look at me while she was playing, since her gaze tended to wander and fixate on a light. There were many pauses in this improvisation, in which Claire made vocal sounds or responded by playing with her hands on the keys of the piano. At one point, she leant on the piano and stopped. Fast, accelerating music immediately provoked her back to playing. Her vocal sounds also increased, and up to this point in the assessment her previously continuous hand clasping and plucking had ceased, as both hands were busy on the piano.

As I transferred my playing to the guitar, Claire maintained consistent eye contact with me, smiling and laughing and producing vocal sounds. I was singing to her, improvising melodies, changing the quality and timbre of my voice to stimulate her, and she was very amused and responsive to this. The physiotherapist held Claire's pelvis steady and supported her upper arm, at the same time stabilizing her shoulder; this allowed Claire to feel secure enough to use her right hand to touch and strum the strings of the guitar.

When we moved to the large tympani drum, Claire initially rested her hands on the instrument. I beat gently on the drum with the open palm of my hand, then moved up her arms to tap a rhythm. This focused her attention and she immediately began to play, with both hands, which surprised her parents and me, as she rarely uses her right hand. My vocalizing with her drum playing was apparently effective in keeping her interest, because she sustained both eye contact and motivated playing. Subsequently, I gently restrained her left hand for a short time to encourage her to use her right hand, which she spontaneously continued to do when restraint was removed. Her grip is usually poor, but she persevered with her right hand, and on two successive occasions beat once on the drum with a short-handled beater, followed by two beats on the third attempt.

The musical engagement in all of the activities described above—instrumental and vocal—are examples of turn-taking dialogues. Claire was particularly responsive to this, and there was increasing immediacy in her taking her turn as she settled into the musical patterns of

the interaction. Analysis of the video revealed Clare was demonstrating good anticipation skills, well-developed awareness of cause and effect and of object permanence.

By seating Claire on the knee of the physiotherapist who was holding her hips and torso, we could evaluate the extent of the hypotonia of her trunk (back weakness) and determine how much support she needed to maintain her in a functional sitting position. This informed the subsequent physiotherapy and occupational therapy assessment, leading to recommendations regarding seating and posture, and the use of a spinal brace. Claire's response to having her left hand held down, which improved function of her free right hand, allowed predictions to be made about the potential efficacy of intermittent splinting of one arm for improving hand function in the other limb.

The music therapy assessment revealed important indicators of latent communicative responsiveness and intentionality, and showed Claire's sense of humour, her understanding of and capacity to participate in turn-taking and sharing, as well as a range of vocal skills that could be developed, better understood and responded to. She evidently could be attentive to what was happening, even if she was not looking directly at it. Besides the evidence of a significant potential for developing her physical skills and extending the range of her movements, Claire's vocalization and laughter proved a lively capacity for emotional expression. The most valuable lesson was evidence of Claire's communicative abilities. This interaction continued for some 18 minutes, a lengthy time to sustain a communicative musical engagement at first meeting between two persons, one of whom has a severe communication delay.

In this example we see a severely handicapped child with Rett syndrome, who has no expressive language, 'talking' with an attuned music therapist, sharing the impulses and emotions of communicative musicality.

19.6 Conclusion: music supports the foundations of communication

Music therapy enables one to take a view of the whole person. We believe the development of any child's activity is fundamentally a musical process, and research and clinical reports demonstrate that the experience of being active in music can be an effective therapeutic tool—one that draws on the motives of innate musicality. In the practical music-making sessions, much significant and exciting improvement is obtained because the environment of music therapy inspires a child with the desire and motivation to do many things. We are consistently and pleasurably surprised at the amount of communication, engagement, functional physical activity, lack of resistance, prosocial behaviour, and lively emotional expression that can be seen in the course of both structured and unstructured musical experiences with severely handicapped children.

Music therapy, however, is not always a time of creative joy and laughter. For children and adults who come to music therapy struggling with a serious disability or disorder, it is also a time when they may express fear, pain, anger and frustration. Then there is a further need for the therapy session to offer a space in which such emotions will be accepted (Robarts, Chapter 17, this volume).

While many clinical examples recorded on video show the pleasure that the children and adults can obtain from making sounds and developing dialogues, both in music and in other preverbal methods of contact, there are moments when they appear sad, withdrawn and perhaps even unable to cope with the situation. For this experience, they need support, nurturing, and sympathetic response that will help them appreciate that the therapist can understand their needs and their feelings, and share them. Sympathy is naturally mediated by communicative musicality, which is grounded in the rhythmic engagement of motives and emotions.

Music is a universal human form of communication that has the capacity to overcome linguistic, physical, mental and cognitive barriers to understanding with others. Mother and infant communicate by the exchange of coordinated expressions by touch, sound and vision. Even at birth, an infant shows the foundational impulses of communication, seeking eye contact and vocalizing in synchrony with his or her parent's infant-directed speech. When severe developmental disability is evident from birth or at a very young age, the child and parent might not be able to interact and share their motives and emotions in harmonious ways. This, in turn, may affect the child's development of a confident and able 'self'. The child may appear to others as mute, unemotional and with little understanding of surroundings.

In its professional use as therapy, music can be employed as a prepared or composed container, setting boundaries, structuring, supporting and guiding the client. On the other hand, it can offer a free space for expressive improvisation—one that can mirror the client's feelings beyond the boundaries of his or her disability, allowing the two human beings to share company as equals. When the skilled music therapist prepares an inviting environment, presents the client with appropriate opportunities, and stays attuned to the client's needs and abilities, the stage is set for a live and intimate conversation.

We have shown in this chapter that the principles of human motivation called communicative musicality can be harnessed as a powerful tool that can aid even the emotionally barricaded child with autism to converse on the piano with his music therapist. We have seen the severely handicapped child with Rett syndrome become able to freely 'chat' with the singing of her music therapist when the setting gives her responsive support. When meeting a speechless client, the music therapist has the tools to promote communicative musicality, thus enabling a person to give their meaning a sound, and to sense that it has been received.

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